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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tatsuya Okui

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EXAMINER

EKIERT, TERESA M

ART UNIT

PAPER NUMBER

3725

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,616	Applicant(s) OKUI ET AL.	
	Examiner TERESA EKIERT	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/8/2008</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is over the 150 word limit.

Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 1 and 8 are objected to because of the following informalities:

On line 4 of claim 1 and line 2 of claim 8, the ($n \geq 3$) should be written out without parentheses (i.e. “greater than or equal to 3”) not just represented by the symbol.

The first word on line 8 of should not be capitalized. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claim 1, there is insufficient antecedent basis for “the bottom” (line 10), “the distance” (both recitations, line 12 and line 15) and “the edge” (line 13).

With regards to claim 8, there is insufficient antecedent basis for “the bottom” (line 6) and “the distance” (line 8).

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The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

Claims 10, 13 and 14 are rejected under 35 U.S.C. 112 4th paragraph, as being an improper dependent claim for failing to include all the limitations of the claim upon which it depends and for failing to further limit the subject matter of the claim upon which it depends. Independent claim 8 is directed to a roll for use in a reducing mill. Claims 10, 13 and 14 depend from claim 8 (claim 10 depends from claim 9 which depends from claim 8) and are directed to a reducing mill. Claims 10, 13 and 14 do not include the apparatus of claim 8. Therefore, claims 10, 13 and 14 fail to further limit claim 8. As the Federal Circuit treats non-compliance with 35 USC 112 4th paragraph as a patentability issue, it is considered more appropriate to treat a claim that does not comply with 35 USC 112 4th paragraph by rejecting the claim under 35 USC 112 4th rather than by objecting to such claim under 37 CFR 1.75(c) as provided for in MPEP 608.01(n)(II). See *Pfizer Inc. v. Ranbaxy Labs., Ltd.*, 457 F.3d 1284, 1291-92 (Fed. Cir. 2006). It is noted that the preamble of claims 10, 13 and 14 currently states “The reducing mill according to claim n” - in order to alleviate this rejection the preamble in these claims should read “The roll according to claim n.”

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 6, 8, 9, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bibighaus (US Patent 3,842,635).

With regards to claims 1 and 8, Bibighaus discloses a reducing mill including a plurality of stands [first set of rolls 39, 41, 43 and second set of rolls 45, 47, 49] disposed along a rolling direction line, wherein a pipe or tube is rolled through said plurality of stands along said rolling direction line,

said stands each include n rolls ($n \geq 3$) disposed around said rolling direction line, as seen in Figures 2 and 3,

said n rolls are disposed shifted by $180^\circ/n$ around said rolling direction line from n rolls included in a preceding stand [Column 2, lines 30-35],

each of said n rolls included in each of said plurality of stands excluding a last stand has a groove having an arch shape in cross section [Column 7, lines 30-40],

the bottom of said groove having a circular arc shape having a first radius around said rolling direction line in cross section, as seen in Figure 5,

the distance between the surface of a roll flange portion positioned between the bottom and the edge of said groove and said rolling direction line is longer than said first radius, and the distance between the edge of said groove and said rolling direction line is longer than the first

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radius in the groove of a roll included in said preceding stand [Column 7, lines 30+ - Column 8, lines 1-20 and Figure 5].

With regards to claims 2 and 9, Bibighaus discloses wherein said roll flange portion has an arch shape in cross section [Column 8, lines 20-30].

With regards to claims 5 and 12, Bibighaus discloses wherein said roll flange portion 989, 91) has a straight shape in cross section, as seen in Figure 5.

With regards to claims 6 and 13, Bibighaus discloses wherein n equals 3, as seen in Figure 6, and the circular arc of said bottom has a central angle of at least 50° , as seen in Figure 5.

Claims 1-4, 6, 8, 9-11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (hereafter “Yamamoto”) (JP 04-158907), as cited on IDS.

With regards to claims 1 and 8, Yamamoto discloses a reducing mill including a plurality of stands, as seen in Figure 2 disposed along a rolling direction line, wherein a pipe or tube is rolled through said plurality of stands along said rolling direction line,

said stands each include n rolls ($n \geq 3$) disposed around said rolling direction line, as seen in Figure 3B and C,

said n rolls are disposed shifted by $180^\circ/n$ around said rolling direction line from n rolls included in a preceding stand [Abstract],

each of said n rolls included in each of said plurality of stands excluding a last stand has a groove having an arch shape in cross section, as seen in Figure 4

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the bottom of said groove having a circular arc shape having a first radius around said rolling direction line in cross section, as seen in Figure 5,

the distance between the surface of a roll flange portion positioned between the bottom and the edge of said groove and said rolling direction line is longer than said first radius, and the distance between the edge of said groove and said rolling direction line is longer than the first radius in the groove of a roll included in said preceding stand [Abstract and Figure 1 and 4].

With regards to claims 2 and 9, Yamamoto discloses wherein said roll flange portion has an arch shape in cross section, as seen in Figures 1 and 4.

With regards to claims 3 and 10, Yamamoto discloses wherein in cross section of said groove, a tangent on an end of said bottom matches a tangent on an end of said roll flange portion on the side of said bottom, as seen in Figures 1 and 4.

With regards to claims 4 and 11, Yamamoto discloses wherein said roll flange portion has a circular arc shape having a second radius larger than said first radius in cross section, as seen in Figures 1 and 4.

With regards to claims 6 and 13, Yamamoto discloses wherein n equals 3 and the circular arc of said bottom has a central angle of at least 50° , as seen in Figures 3B and 4.

Claims 1-4, 6-11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuroda et al. (hereafter “Kuroda”) (JP 06-210318), as cited on IDS.

With regards to claims 1 and 8, Kuroda discloses a reducing mill including a plurality of stands, as seen in Figure 10 disposed along a rolling direction line, wherein a pipe or tube is rolled through said plurality of stands along said rolling direction line,

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said stands each include n rolls ($n \geq 3$) disposed around said rolling direction line, as seen in Figure 2,

said n rolls are disposed shifted by $180^\circ/n$ around said rolling direction line from n rolls included in a preceding stand, as seen in Figure 2

each of said n rolls included in each of said plurality of stands excluding a last stand has a groove having an arch shape in cross section, as seen in Figure 2,

the bottom of said groove having a circular arc shape having a first radius around said rolling direction line in cross section, as seen in Figure 2,

the distance between the surface of a roll flange portion positioned between the bottom and the edge of said groove and said rolling direction line is longer than said first radius, and the distance between the edge of said groove and said rolling direction line is longer than the first radius in the groove of a roll included in said preceding stand [Figure 2].

With regards to claims 2 and 9, Kuroda discloses wherein said roll flange portion has an arch shape in cross section, as seen in Figure 2.

With regards to claims 3 and 10, Kuroda discloses wherein in cross section of said groove, a tangent on an end of said bottom matches a tangent on an end of said roll flange portion on the side of said bottom, as seen in Figure 2.

With regards to claims 4 and 11, Kuroda discloses wherein said roll flange portion has a circular arc shape having a second radius larger than said first radius in cross section, as seen in Figure 2.

With regards to claims 6 and 13, Kuroda discloses wherein n equals 3 and the circular arc of said bottom has a central angle of at least 50° , as seen in Figures 16 and 19.

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With regards to claims 7 and 14, Kuroda discloses wherein n equals 4 and the circular arc of said bottom has a central angle of at least 36° , as seen in Figure 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 7, 10, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bibighaus.

With regards to claim 3, 4, 10 and 11, Bibighaus discloses that the roll flange portion can be given a curvature with one or more finite radii of curvature instead of a straight line [Column 8, lines 20-30] and wherein n equals 4 [Figure 9]. Bibighaus discloses the invention substantially as claimed except for wherein in cross section of said groove, a tangent on an end of said bottom matches a tangent on an end of said roll flange portion on the side of said bottom and wherein said roll flange portion has a circular arc shape having a second radius larger than said first radius in cross section and the circular arc of said bottom has a central angle of at least 36° . It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the roller with the particularly claimed curvature since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and in order to accommodate different size and shaped products.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa Ekiert whose telephone number is 571-272-1901. The examiner can normally be reached on Monday-Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on 571-272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa M. Ekiert/
Primary Examiner, Art Unit 3725